



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,165	04/19/2001	Keiki Yamada	0054-0230P	8432
2292	7590	11/29/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HUNTSINGER, PETER K	
		ART UNIT	PAPER NUMBER	
		2624		
DATE MAILED: 11/29/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/837,165	YAMADA ET AL.
Examiner	Art Unit	
Peter K. Huntsinger	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 April 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4/19/01</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawabe et al.

Referring to claim 1, Kawabe et al. discloses an optical printing apparatus in which an image data indicative of a density of each of a plurality of pixels forming an image with a first gradation value is input (col. 9, lines 53-65), so that a plurality of exposure elements of a print head (recording elements, col. 2, lines 36-39) are each driven to perform an exposure with a required quantity of exposure light (i.e., product of a quantity of light and an exposure time), thereby forming a pixel corresponding to each of said exposure elements on a photosensitive printing medium which generates a color of a density corresponding to said required quantity of exposure light (col. 9, lines 4-16), said apparatus comprising: an exposure level conversion section (printing head control

section 40) for converting said image data into corresponding exposure level data (col. 9, lines 53-65) indicative of a density of each pixel with a second gradation value greater than said first gradation value indicated by said image data (col. 7, lines 9-20), and for outputting the exposure level data thus converted (col. 11, lines 42-54); and a head driving section (printing head 30) being connected to receive said exposure level data from said exposure level conversion section and driving, based on said exposure level data, each element of said print head to expose said photosensitive printing medium in such a manner that a quantity of light corresponding to said exposure level data is exposed to said photosensitive printing medium, thereby forming a pixel of a density corresponding to said exposure level data on said photosensitive printing medium (col. 11-12, lines 55-67, 1-29).

Referring to claim 2, Kawabe et al. discloses the optical printing apparatus as claimed in claim 1, wherein said photosensitive printing medium has a nonlinear chromophore density characteristic in which the density of a color generated in accordance with a quantity of exposure light is nonlinear with respect to the quantity of exposure light (See Fig. 8-10 showing density vs. exposure), and said exposure level conversion section converts said image data into said exposure level data in such a manner that the density of a pixel formed on said photosensitive printing medium corresponding to said exposure level data is linear with respect to the image data corresponding to said exposure level data (col. 14, lines 50-67).

Referring to claim 3, Kawabe et al. discloses the optical printing apparatus as claimed in claim 1, wherein upon exposure of each element of said print head, the

quantity of light per unit time of each element is constant, and said head driving section drives each element of said print head in such a manner that the exposure time of each element is proportional to the magnitude of said exposure level data (col. 2, lines 24-35).

Referring to claim 4, Kawabe et al. discloses the optical printing apparatus as claimed in claim 1, wherein said exposure level conversion section includes an exposure level conversion table for correlating said image data and said exposure level data with respect to each other (col. 12, lines 48-55). The lookup table disclosed by Kawabe uses the image data of exposure to determine the proper exposure level.

Referring to claim 5, Kawabe et al. discloses the optical printing apparatus as claimed in claim 1, wherein said image data indicates the density of each of three primary colors for a plurality of pixels forming a color image with said first gradation value for each pixel (col. 9, lines 9-16), and said exposure level conversion section converts said image data input thereto into corresponding exposure level data for each color which is indicative of the density of each color of each pixel represented by said image data with a second gradation value greater than said first gradation value for each color (col. 9, lines 43-46), and said head driving section receives said exposure level data for each color and drives each element of said print head to expose said photosensitive printing medium in such a manner that a quantity of light corresponding to said exposure level data is exposed to said photosensitive printing medium, thereby forming a pixel of a density for each color corresponding to said exposure level data for each color on said photosensitive printing medium (col. 9, lines 46-49).

Referring to claim 6, Kawabe et al. discloses the optical printing apparatus as claimed in claim 1, further comprising: an exposure level correction section for correcting exposure level data output from said exposure level conversion section by a correction factor for each element of said print head, and outputting a corrected exposure level (col. 14, lines 61-67), wherein said head driving section receives said corrected exposure level and drives each element of said print head to expose said photosensitive printing medium in such a manner that a quantity of light corresponding to said input corrected exposure level is exposed to said photosensitive printing medium, thereby forming a pixel of a density corresponding to said corrected exposure level data on said photosensitive printing medium (col. 15, lines 1-3).

Referring to claim 7, Kawabe et al. discloses the optical printing apparatus as claimed in claim 6, wherein said exposure level correction section comprises: a correction factor storing section for storing a correction factor for each element of said print head (col. 14, lines 61-67); and a table describing corrected exposure level data while correlating each correction factor and exposure level data with respect to each other (col. 12, lines 48-51); wherein said exposure level correction section determines corrected exposure level data from a correction factor read out from said correction factor storing section and an input exposure level data while referring to said table, and outputs said corrected exposure level data thus determined (col. 15, lines 1-3).

Referring to claim 8, the optical printing apparatus as claimed in claim 6, wherein said exposure level correction section comprises: a correction factor storing section for storing a correction factor for each element of said print head; and a multiplier (multiplier

41 of Fig. 3) for multiplying said correction factors and exposure level data (col.11, lines 42-45); wherein said exposure level correction section determines corrected exposure level data from a correction factor read out from said correction factor storing section and an input exposure level data, and outputs the corrected exposure level data thus determined (col. 11, lines 43-54)

Referring to claim 9, the optical printing apparatus as claimed in claim 1, further comprising: an accumulated exposure time information storing section (correction memory 66) for storing accumulated exposure time information corresponding to an accumulated exposure time of said print head (col. 14, lines 50-67); and an exposure level correcting section for correcting exposure level data output from said exposure level conversion section in accordance with accumulated exposure time information output from said accumulated exposure time information storing section, and for outputting the thus corrected exposure level data (col. 15, lines 1-3); wherein said head driving section receives said corrected exposure level and drives each element of said print head to expose said photosensitive printing medium in such a manner that a quantity of light corresponding to said input corrected exposure level is exposed to said photosensitive printing medium, thereby forming a pixel of a density corresponding to said corrected exposure level data on said photosensitive printing medium (col. 15, lines 1-3).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (703)306-4088. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PKH

*David K. Moore*

DAVID MOORE  
EXAMINER  
TECHNOLOGY CENTER 2600